

SECTION 02870

SITE AND STREET FURNISHINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following site and street furnishings:
 - 1. Benches
 - 2. Bicycle racks.
- B. Related Sections include the following:
 - 1. Division 2 Section "Earthwork" for excavation for installation of concrete footings.
 - 2. Division 3 Section "Cast-in-Place Concrete".

1.2 SUBMITTALS

- A. **Product Data:** For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, finishes, field-assembly requirements, and installation details.
- B. **Samples for Verification:** For each type of exposed finish required, prepared on Samples of size indicated below.
 - 1. Size: Not less than 6-inch- (150-mm-) long linear components and 4-inch- (100-mm-) square sheet components.
- C. **Maintenance Data:** For site and street furnishings to include in maintenance manuals.

1.3 QUALITY ASSURANCE

- A. **Source Limitations:** Obtain each type of site and street furnishings through one source from a single manufacturer.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. **Products:** Subject to compliance with requirements, provide one of the following:
 - 1. Benches:
 - a. Sonoma Bench (backless) by Landscape Forms, Inc., (800) 521-2546
 - 1) Size: 19" deep, 18" high, 72" long
 - 2) Material: Jarrah - solid stock, select Australian hardwood, unfinished.
 - 3) Metal Components: Painted steel, color as selected by Architect.
 - 2. Bicycle Racks:
 - b. Cycloops by TimberForm, model 2170-9-S-E
 - 1) Permanently embedded in concrete
 - 2) Stainless steel finish

2.2 MATERIALS

- A. Aluminum: Alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated; free from surface blemishes and complying with the following:
 - 1. Rolled or Cold-Finished Bars, Rods, and Wire: ASTM B 211 (ASTM B 211M).
 - 2. Extruded Bars, Rods, Wire, Profiles, and Tubes: ASTM B 221 (ASTM B 221M).
 - 3. Structural Pipe and Tube: ASTM B 429.
 - 4. Sheet and Plate: ASTM B 209 (ASTM B 209M).
- B. Steel: Free from surface blemishes and complying with the following:
 - 1. Plates, Shapes, and Bars: ASTM A 36/A 36M.
 - 2. Steel Pipe: Standard-weight steel pipe complying with ASTM A 53, or electric-resistance-welded pipe complying with ASTM A 135.
 - 3. Tubing: Cold-formed steel tubing complying with ASTM A 500.
 - 4. Mechanical Tubing: Cold-rolled, electric-resistance-welded carbon or alloy steel tubing complying with ASTM A 513, or steel tubing fabricated from steel complying with ASTM A 569/A 569M and complying with dimensional tolerances in ASTM A 500; zinc coated internally and externally.
 - 5. Sheet: Commercial steel sheet complying with ASTM A 569/A 569M.
 - 6. Perforated Metal: From steel sheet not less than 0.0897-inch (2.3-mm) nominal thickness; manufacturer's standard perforation pattern.
- C. Stainless Steel: Free from surface blemishes and complying with the following:
 - 1. Sheet, Strip, Plate, and Flat Bars: ASTM A 666.
 - 2. Pipe: Schedule 40 steel pipe complying with ASTM A 312/A 312 M.
 - 3. Tubing: ASTM A 554.
- D. Wood: Surfaced smooth on four sides with eased edges; kiln dried, free of knots, solid stock of species indicated.
- E. Anchors, Fasteners, Fittings, and Hardware: Stainless steel Manufacturer's standard, corrosion-resistant-coated or noncorrodible materials; commercial quality; tamperproof, vandal and theft resistant; concealed, recessed, and capped or plugged. Provide as required for site and street furnishings' assembly, mounting, and secure attachment.
- F. Nonshrink, Nonmetallic Grout: Premixed, factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107. Provide grout, recommended in writing by manufacturer, for exterior applications.
- G. Galvanizing: Where indicated for steel and iron components, provide the following protective zinc coating applied to components after fabrication:
 - 1. Zinc-Coated Tubing: External, zinc with organic overcoat, consisting of a minimum of 0.9 oz./sq. ft. (0.27 kg/sq. m) of zinc after welding, a chromate conversion coating, and a clear, polymer film. Internal, same as external or consisting of 81 percent, not less than 0.3-mil- (0.0076-mm-) thick, zinc pigmented coating.
 - 2. Hot-Dip Galvanizing: According to ASTM A 123/A 123M, ASTM A 153/A 153M, or ASTM A 924/A 924M.

2.3 FABRICATION

- A. Metal Components: Form to required shapes and sizes with true, consistent curves, lines, and angles. Separate metals from dissimilar materials to prevent electrolytic action.
- B. Welded Connections: Weld connections continuously. Weld solid members with full-length, full-penetration welds and hollow members with full-circumference welds. At exposed connections, finish surfaces smooth and blended so no roughness or unevenness shows after finishing and welded surface matches contours of adjoining surfaces.
- C. Pipes and Tubes: Form simple and compound curves by bending members in jigs to produce uniform curvature for each repetitive configuration required; maintain cylindrical cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of handrail and railing components.
- D. Steel and Iron Components: Galvanized, galvanized and color coated, or color coated. Bare metal steel or iron components are not permitted.
- E. Preservative-Treated Wood Components: Complete fabrication of treated items before treatment if possible. If cut after treatment, apply field treatment complying with AWP A M4 to cut surfaces.
- F. Exposed Surfaces: Polished, sanded, or otherwise finished; smooth all surfaces, free from burrs, barbs, splinters, and sharpness; all edges and ends rolled, rounded, or capped.
- G. Factory Assembly: Assemble components in the factory to the greatest extent possible to minimize field assembly. Clearly mark units for assembly in the field.

2.4 FINISHES, GENERAL

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.5 STEEL AND GALVANIZED STEEL FINISHES

- A. Baked-Enamel, Powder-Coat Finish: Manufacturer's standard, baked, polyester-TGIC, powder-coat finish complying with finish manufacturer's written instructions for surface preparation, including pretreatment, application, baking, and minimum dry film thickness.
- B. PVC Finish: Manufacturer's standard, UV-light stabilized, mold-resistant, slip-resistant, matte-textured, dipped or sprayed-on, PVC-plastisol finish, with flame retardant added; complying with coating manufacturer's written instructions for pretreatment, application, and minimum dry film thickness.

2.6 STAINLESS-STEEL FINISHES

- A. Remove tool and die marks and stretch lines or blend into finish.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions, with Installer present, for compliance with requirements for correct and level finished grade, mounting surfaces, installation tolerances, and other conditions affecting performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. Comply with manufacturer's written installation instructions, unless more stringent requirements are indicated. Complete field assembly of site and street furnishings, where required.
- B. Unless otherwise indicated, install site and street furnishings after landscaping and paving have been completed.
- C. Install site and street furnishings level, plumb, true, and securely anchored at locations indicated on Drawings.
- D. Post Setting: Set cast-in support posts in concrete footing with smooth top, shaped to shed water. Protect portion of posts above footing from concrete splatter. Verify that posts are set plumb or at correct angle and are aligned and at correct height and spacing. Hold posts in position during placement and finishing operations until concrete is sufficiently cured.
- E. Posts Set into Voids in Concrete: Form or core-drill holes for installing posts in concrete to depth recommended in writing by manufacturer of site and street furnishings and 3/4 inch (20 mm) larger than OD of post. Clean holes of loose material, insert posts, and fill annular space between post and concrete with nonshrink, nonmetallic grout, mixed and placed to comply with anchoring material manufacturer's written instructions, with top smoothed and shaped to shed water.
- F. Pipe Sleeves: Use steel pipe sleeves preset and anchored into concrete for installing posts. After posts have been inserted into sleeves, fill annular space between post and sleeve with nonshrink, nonmetallic grout, mixed and placed to comply with anchoring material manufacturer's written instructions, with top smoothed and shaped to shed water.

3.3 CLEANING

- A. After completing site and street furnishing installation, inspect components. Remove spots, dirt, and debris. Repair damaged finishes to match original finish or replace component.

END OF SECTION 02870